

What is claimed is:

1. A method of rotating an original image having a skew angle, comprising the steps of:

(a) generating predrawn mapping patterns (PMPs) with respect to all bit patterns of a block having a predetermined size by rotating the bit pattern using the skew angle;

(b) storing the PMPs in a buffer;

(c) dividing the original image into blocks having the predetermined size;

(d) extracting the bit patterns of the blocks; and

(e) fetching the PMPs with respect to the bit patterns, and outputting the fetched PMPs onto an output plane.

2. The method according to claim 1, wherein the original image includes one of a binary image and a halftone image.

3. The method according to claim 1, wherein addresses of the buffer for storing the PMPs are obtained by shifting and OR-gating the corresponding bit patterns.

4. The method according to claim 1, wherein the step (c) divides the original image into the blocks so that the blocks overlap by one pixel horizontally and vertically.

5. A method of rotating an original image having a skew angle, comprising the steps of:

(a) generating predrawn mapping pattern (PMP M_{black}) with respect to a coarse block composed of black pixels and PMPs with respect to bit patterns of a fine block;

(b) storing the PMPs with respect to all the bit patterns of the fine block and the PMP M_{black} with respect to the coarse block composed of the black pixels;

(c) dividing the original image into coarse blocks, and detecting whether the coarse block is composed of the black pixels; and

(d) if the coarse block is composed of the black pixels, fetching the PMP M_{black} and outputting the PMP M_{black} onto an output plane, while if not, dividing the coarse block into fine blocks, fetching the PMPs with respect to the bit patterns of the fine blocks, and outputting the fetched PMPs onto the output plane.

6. The method according to claim 5, wherein the coarse block is composed of 9×9 pixels, and the fine coarse block is composed of 3×3 pixels.

7. The method according to claim 5, wherein the step (c) divides the original image into the coarse blocks so that the coarse blocks overlap one another by one pixel horizontally and vertically.

8. The method according to claim 5, wherein the step (d) divides the coarse block into the fine blocks so that the fine blocks overlap one another by one pixel horizontally and vertically.

9. The method according to claim 5, wherein addresses of the buffer for storing the PMPs are obtained by shifting and OR-gating the corresponding bit patterns.

10. A system for correcting an original image having a skew angle, comprising:

a skew angle estimation unit for estimating the skew angle of a skewed image;

a predrawn mapping pattern (PMP) generation unit for generating PMP with respect to bit patterns of a block using the skew angle;

means for storing the PMPs generated by the PMP generation unit;

an image division unit for dividing the original image into blocks of a predetermined size;

a bit pattern extraction unit for extracting the bit patterns of the blocks; and

an output unit for fetching the PMPs with respect to the bit patterns extracted by the bit pattern extraction unit, and outputting fetched PMPs onto an output plane.

11. The system according to claim 10, wherein the output unit includes:

a PMP address unit for calculating addresses for storing the PMPs corresponding to the bit patterns of the blocks in said means for storing the PMPs; and

a PMP output unit for outputting the PMPs onto the output plane whose coordinates are calculated by rotating upper-left coordinates of the block using the skew angle.

12. The system according to claim 11, wherein the PMP address unit calculates the addresses of the PMPs stored by the storing means by shifting and OR-gating the corresponding bit pattern.

13. The system according to claim 10, wherein the image division unit divides the original image into the blocks overlapping one another by one pixel horizontally and vertically.

14. A system for correcting an original image having a skew angle, comprising:

a skew angle estimation unit for estimating the skew angle of a skewed image;

a predrawn mapping patterns (PMP) generation unit for generating PMPs M_x with respect to bit patterns of a fine block using the skew angle, and generating PMP M_{black} with respect to a coarse block composed of black pixels;

means for storing the PMPs and the PMP M_{black} generated by the PMP generation unit;

a image division unit for dividing the original image into coarse blocks, and dividing the coarse block into fine blocks;

a bit pattern extraction unit for extracting the bit patterns of the coarse blocks and fine blocks; and

an output unit for fetching the PMPs with respect to the bit patterns extracted by the bit pattern extraction unit, and outputting fetched PMPs onto an output plane.

15. The system according to claim 14, wherein if all pixels of the coarse block are black, the output unit fetches and outputs the PMP M_{black} with respect to the coarse block.

16. The system according to claim 14, wherein the image division unit divides the original image into the coarse blocks and the coarse block into fine blocks, the coarse blocks overlap one another by one pixel horizontally and vertically, and the fine blocks overlap one another by one pixel horizontally and vertically.